REMARKS

Claims 1-10 are pending in this Application, of which claim 1 is independent. Applicants acknowledge, with appreciation, the Examiner's indication that claim 9 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In this Amendment, claims 1-4 have been amended to delete the limitations "before the solder layer is melted" and "before it is melted," respectively. Care has been exercised to avoid the introduction of new matter. A Request for Continued Examination is filed herewith.

Claims 1-4 and 6-8 have been rejected under 35 U.S.C. §102(e) for lack of novelty as evidenced by Slater, Jr. et al. ("Slater").

In the statement of the rejection, the Examiner asserted that Slater discloses a submount corresponding to what is claimed. In the statement of the rejection of claim 1, the Examiner stated as follows:

> No patentable weight is given to "a surface roughness ... before the solder layer is melted" because it is drawn to a product by process. The surface roughness in the final structure is not defined and therefore it can be any roughness.

The paragraph bridging pages 2 and 3 of the Office Action. Although Applicants believe that claim 1 is not a product-by-process claim, to expedite the prosecution of the present application, claim 1 has been amended to delete the limitation "before the solder layer is melted."

Applicants acknowledge, with appreciation, Examiner Ngo's courtesy and professionalism in conducting a telephone interview on February 5, 2007, during which the present Amendment was discussed. It is Applicants' understanding that the claimed surface roughness would be given patentable weight by the present Amendment.

During the interview, Examiner Ngo pointed out that the claimed submount has to be supported as a final product in the specification. In response, Applicants note that it is Applicants' prerogative to claim what Applicants regard as their invention. *See In re Ehrreich, 590 F.2d 902, 200 USPQ 504 (CCPA 1979); In re Borkowski, 422 F.2d 904, 164 USPQ 642 (CCPA 1970).* Further, there is no requirement that a claimed product has to be a final product. In fact, an intermediate product can be claimed and is patentable if it satisfies all the requirements of the law. In addition, the disclosure of the specification addresses a submount itself, (see, e.g., the paragraphs beginning at page 1, line 5; at page 3, line 8; and at page 3, line 19). Accordingly, Applicants respectfully request the Examiner to give patentable weight to the claimed surface roughness.

Furthermore, Applicants submit that Slater does not disclose a submount including all the limitations recited in independent claim 1. Specifically, Slater does not disclose, at a minimum, "a solder layer that... has a surface roughness, Ra, of at most 0.18 μm," recited in claim 1.

Slater in, for example, Fig. 10 shows submount 75, solder 80, and LED 100. The reference describes solder 80 as follows:

> In other embodiments of the present invention, the LED 100 may be mounted on the submount 75 using a metal solder 80 such as SnAg, SnPb and/or other solders as illustrated in FIG. 10. The passivation layer 40b can reduce or prevent Sn from solder 80 from migrating to (and thereby potentially degrading) the reflective layer 34 and/or ohmic layer 32. The passivation layer 40b also can reduce or prevent conductive solder 80 from contacting the substrate 20 and mesa sidewalls, which may otherwise result in the formation of unwanted parasitic Schottky contacts to n-type regions of the device 100.

Paragraph [0064]. However, it is apparent from the above paragraph that the reference is silent on the surface roughness of solder 80. In contrast, the claimed solder layer has a surface roughness, Ra, of at most 0.18 μm. Accordingly, Slater does not identically disclose a submount including all the limitations recited in independent claim 1.

Based on the foregoing, Slater does not disclose the claimed invention. Dependent claims 2-4 and 6-8 are also patentably distinguishable over Slater at least because these claims include all the limitations recited in independent claim 1. Applicants again respectfully request the Examiner to consider the claimed surface roughness, and solicit withdrawal of the rejection of claims 1-4 and 6-8 under 35 U.S.C. §102(e) as evidenced by Slater.

Claims 5 and 10 have been rejected under 35 U.S.C. § 103 for obviousness predicated upon Salter in view of Hikasa et al. and Kitaoka et al.

Since claims 5 and 10 depend from independent claim 1, Applicants incorporate herein the arguments previously advanced in responding to the rejection of independent claim 1 under 35 U.S.C. § 102 for lack of novelty as evidenced by Slater. The secondary references to Hikasa et al. and Kitaoka et al. do not cure the previously argued deficiencies of Slater. Accordingly, even if the applied references are combined as suggested by the Examiner, the applied combination does not teach a submount including all the limitations recited in claims 5 and 10.

Applicants, therefore, respectfully solicit withdrawal of the rejection of claims 5 and 10, and favorable consideration thereof.

Conclusion

It should, therefore, be apparent that the imposed rejections have been overcome and that all pending claims are in condition for immediate allowance. Favorable consideration is, therefore, respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper,

including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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